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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,718	02/26/2002	Mazen K. Alsliety	GP-302119 (2760/59)	3969

7590

02/12/2003

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EXAMINER

CHEN, SHIH CHAO

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,718

Applicant(s)

ALSLIETY, MAZEN K.

Examiner

Shih-Chao Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. In response to the communication dated February 26, 2002 through April 12, 2002, claims 1-20 are active in this application.

Oath/Declaration

2. Oath or declaration filed on April 12, 2002 has been considered.

Drawings

3. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the PCMCIA card in claim 18 and the vehicle in claims 19-20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities: on page 5, line 2, "As shown in FIG. 2" should be changed to --As shown in FIG. 1--.

Appropriate correction is required.

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6. The disclosure is objected to because of the following informalities: on page 5, line 8, "define a centerline 38, 42, 20 thereof" should be changed to --define a centerline 38, 42, 40--.

Appropriate correction is required.

7. The disclosure is objected to because of the following informalities: on page 5, line 11, "The distance 46" should be changed to --The distance 45--.

Appropriate correction is required.

8. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections/ Minor Informalities

9. Claim 7 is objected to because of the following informalities: "The antenna of claim 3" should be changed to --The antenna of claim 4--. Because the words "the reflector" are only described in claim 4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

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Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1-8 and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hegendoerfer (U.S. Patent No. 6,326,922).

Regarding claim 1, Hegendoerfer teaches in figures 1 and 4-6 an antenna [100] comprising: a substrate [130] of dielectric material defining a longitudinal axis (See FIG. 4) of the substrate [130] and a surface of the substrate [130]; and a plurality of electrically conductive elements [118, 122, 102, 104, 106, 107, 108, 109] disposed on the surface of the substrate [130] to form a Yagi-Uda dipole array (See FIG. 4).

Regarding claim 2, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the Yagi-Uda dipole array includes a driven element [122] and [one or more parasitic elements [118, 102, 104, 106, 107, 108, 109], and electromagnetic energy is coupled from the driven element [122] to the parasitic elements through space and by surface waves in the substrate [130].

Regarding claim 3, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the driven element [122] comprises a dipole having a first and a second dipole element [112, 114] extending colinearly in opposite directions from and perpendicular to the substrate axis, the dipole elements [112, 114] having adjacent ends spaced apart at equal distances on either side of the substrate axis (See FIG. 4).

Regarding claim 4, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the parasitic elements [118, 102, 104, 106, 107, 108, 109] include a reflector [118] and one or more directors [102, 104, 106, 107, 108, 109].

Regarding claim 5, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] comprising six or less directors [102, 104, 106, 107, 108, 109].

Regarding claim 6, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] comprising six directors [102, 104, 106, 107, 108, 109].

Regarding claim 7, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the reflector [118] is disposed on one side of the driven element [122] and the directors [102, 104, 106, 107, 108, 109] are disposed on the other side of the driven element [122].

Regarding claim 8, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100]: wherein the driven element [122] comprises a dipole having a first and a second dipole element [112, 114] extending colinearly in opposite directions from and perpendicular to the substrate axis, the dipole elements [112, 114] having adjacent ends spaced apart at equal distances on either side of the substrate axis (See FIG. 4); and wherein the reflector [118] and directors [102, 104, 106, 107, 108, 109] extend linearly across, are centered upon, and oriented perpendicular to the substrate axis (See FIG. 4).

Regarding claim 13, Hegendoerfer teaches in figures 1 and 4-6 an apparatus comprising: an antenna support [132]; and an antenna [100] mounted on the antenna support [132], the antenna [100] comprising: a substrate [130] of dielectric material defining a longitudinal axis of the substrate (See FIG. 4) and a surface of the substrate

[130]; and an plurality of electrically conductive elements [118, 122, 110] disposed on the surface of the substrate [130] to form a Yagi-Uda dipole array.

Regarding claim 14, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the Yagi-Uda dipole array of the antenna [100] includes a driven element [122] and one or more parasitic elements [102, 104, 106, 107, 108, 109], and electromagnetic energy is coupled from the driven element [122] to the parasitic element [102] through space and by surface waves in the substrate [130].

Regarding claim 15, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the antenna support [132] is comprised of a dielectric material and is the substrate.

Regarding claim 16, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the apparatus is an electronic device [9] for communicating through the antenna [100] (See FIG.1).

Regarding claim 17, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the antenna support [132] is a printed circuit board of the apparatus.

Regarding claim 18, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the apparatus {includes a PCMCIA card} (i.e. a PCMCIA card in computer; See FIG. 1) and the PCMCIA card includes the antenna support [132].

Regarding claim 19, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the apparatus comprises a vehicle (See FIG. 1) having a structure forming the antenna support [132].

Regarding claim 20, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the antenna support [132] is an inside surface of a body panel of the vehicle (See FIG. 1).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegendoerfer (Cited above).

Hegendoerfer discloses the claimed invention except for the length of the reflector is in the range of 1.08 to 1.3 times the length spanned between of the outer ends of the first and second dipole elements; the length of the director is in the range of 0.8 to 0.95 times the length spanned between of the outer ends of the first and second dipole elements; the distance between the center of the dipole and the center of the reflector is about 0.25 times free space wavelength; the distance between the center of the dipole and the center of the closest director and the spacing between adjacent directors is about 0.325 times free-space wavelength; the dipole has an overall length of about 0.944 inches, with the inner ends spaced apart a distance of about 0.078 inches; the reflector has a length of about 1.02 inches and has a center spaced about 0.51 inches from the dipole center; the directors have a length of about 0.767 inches and have centers spaced from one another at a distance of about 0.614 inches, the director

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adjacent the dipole being spaced about 0.614 inches from the center of the dipole; and one or more of the dipole, directors and reflector have a width extending parallel to the substrate axis of about 0.047 inches. It would have been an obvious matter of design choice to have the dipole, directors and reflector each respectively define the range of length and the overall length, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level ordinary skill in the art. **See MPEP 2144.04 IV A.**

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (703) 306-2721. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Shih-Chao Chen

Shih-Chao Chen
Examiner
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February 6, 2003